

10663552\_CLS  
Most Frequently Occurring Classifications of Patents Returned  
From A Search of 10663552 on March 11, 2004

Original Classifications

3 250/310  
2 257/296  
2 430/22  
2 438/270

Cross-Reference Classifications

9 257/E27.103  
8 257/E27.096  
6 257/E21.693  
5 257/E27.091  
4 257/330  
4 257/E21.652  
4 257/E21.655  
4 257/E27.086  
4 257/E29.129  
3 250/492.1  
3 257/302  
3 257/E29.304  
3 438/268  
3 438/270  
3 438/294  
2 250/306  
2 250/307  
2 250/492.2  
2 250/492.3  
2 257/314  
2 257/315  
2 257/316  
2 257/327  
2 257/E21.027  
2 257/E21.345  
2 257/E21.429  
2 257/E21.575  
2 257/E21.657  
2 257/E21.659  
2 257/E21.68  
2 257/E39.014  
2 430/296  
2 430/942  
2 430/967  
2 438/207  
2 438/242  
2 438/243

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2 438/299  
2 438/300  
2 438/427  
2 438/589  
2 438/631

Combined Classifications

9 257/E27.103  
8 257/E27.096  
6 257/E21.693  
5 257/E27.091  
5 438/270  
4 250/310  
4 257/330  
4 257/E21.652  
4 257/E21.655  
4 257/E27.086  
4 257/E29.129  
3 250/492.1  
3 250/492.2  
3 257/296  
3 257/302  
3 257/315  
3 257/E29.304  
3 438/242  
3 438/268  
3 438/294  
2 216/71  
2 250/306  
2 250/307  
2 250/309  
2 250/492.3  
2 257/301  
2 257/314  
2 257/316  
2 257/327  
2 257/35  
2 257/E21.027  
2 257/E21.345  
2 257/E21.429  
2 257/E21.575  
2 257/E21.657  
2 257/E21.659  
2 257/E21.68  
2 257/E39.014  
2 430/22  
2 430/296  
2 430/5

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2 430/942  
2 430/967  
2 438/207  
2 438/243  
2 438/259  
2 438/299  
2 438/300  
2 438/427  
2 438/589  
2 438/631

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Titles of Most Frequently Occurring Classifications of Patents Returned

From A Search of 10663552 on March 11, 2004

9 257/E27.103 (0 OR, 9 XR)  
 Class 257 : ACTIVE SOLID-STATE DEVICES  
 257/E27.006 .Including piezo-electric, electro-resistive,  
 or magneto-resistive component (EPO)  
 257/E27.009 .Including semiconductor component with at  
 least one potential barrier or surface  
 barrier adapted for  
 rectifying, oscillating, amplifying, o  
 r switching, or  
 Including integrated passive circuit e  
 lements (EPO)  
 257/E27.01 ..With semiconductor substrate only (EPO)  
 257/E27.07 ...Including a plurality of individual  
 components in a repetitive configuration  
 (EPO)  
 257/E27.081 ....Including field-effect component (EPO)  
 257/E27.102 .....Read-only memory, ROM, structure (EPO)  
 257/E27.103 .....Electrically programmable ROM (EPO)

8 257/E27.096 (0 OR, 8 XR)  
 Class 257 : ACTIVE SOLID-STATE DEVICES  
 257/E27.006 .Including piezo-electric, electro-resistive,  
 or magneto-resistive component (EPO)  
 )  
 257/E27.009 .Including semiconductor component with at  
 least one potential barrier or surfa  
 ce barrier adapted for  
 rectifying, oscillating, amplifying,  
 or switching, or  
 Including integrated passive circuit  
 elements (EPO)  
 257/E27.01 ..With semiconductor substrate only (EPO)  
 257/E27.07 ...Including a plurality of individual  
 components in a repetitive configurati  
 on (EPO)  
 257/E27.081 ....Including field-effect component (EPO)  
 257/E27.084 .....Dynamic random access memory, DRAM,  
 structure (EPO)  
 257/E27.085 .....One-transistor memory cell structure,  
 i.e., each memory cell containing only on  
 e transistor (EPO)  
 257/E27.095 .....Capacitor and transistor in common

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trench (EPO)

257/E27.096 .....Vertical transistor (EPO)

6 257/E21.693 (0 OR, 6 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

Could not find subclass title.

5 257/E27.091 (0 OR, 5 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/E27.006 .Including piezo-electric, electro-resistive,  
or magneto-resistive component (EPO)

257/E27.009 .Including semiconductor component with at  
least one potential barrier or surface  
barrier adapted for  
rectifying, oscillating, amplifying,  
or switching, or  
Including integrated passive circuit  
elements (EPO)

257/E27.01 ..With semiconductor substrate only (EPO)

257/E27.07 ...Including a plurality of individual  
components in a repetitive configuration  
(EPO)

257/E27.081 ....Including field-effect component (EPO)

257/E27.084 .....Dynamic random access memory, DRAM,  
structure (EPO)

257/E27.085 .....One-transistor memory cell structure,  
i.e., each memory cell containing only one  
transistor (EPO)

257/E27.091 .....Transistor in trench (EPO)

5 438/270 (2 OR, 3 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF  
ACTIVE REGIONS SEPARATED BY GATE STRUCTURE  
BY FORMATION OR  
ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS

438/197 .Having insulated gate (e.g., IGFET, MISFET,  
MOSFET, etc.)

438/268 ..Vertical channel

438/270 ...Gate electrode in trench or recess in  
semiconductor substrate

4 250/310 (3 OR, 1 XR)

Class 250 : RADIANT ENERGY

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250/306 INSPECTION OF SOLIDS OR LIQUIDS BY CHARGED  
PARTICLES

250/310 .Electron probe type

4 257/330 (0 OR, 4 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
257/264 ...Enhancement mode or with high resistivity  
channel (e.g., doping of  $10^{15} \text{ cm}^{-3}$  or less)

257/288 .Having insulated electrode (e.g., MOSFET, MOS diode)

257/327 ..Short channel insulated gate field effect transistor

257/329 ...Gate controls vertical charge flow portion of channel (e.g., VMOS device)

257/330 ....Gate electrode in groove

4 257/E21.652 (0 OR, 4 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
Could not find subclass title.

4 257/E21.655 (0 OR, 4 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
Could not find subclass title.

4 257/E27.086 (0 OR, 4 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
257/E27.006 .Including piezo-electric, electro-resistive, or magneto-resistive component (EPO)

257/E27.009 .Including semiconductor component with at least one potential barrier or surface barrier adapted for rectifying, oscillating, amplifying, or switching, or Including integrated passive circuit elements (EPO)

257/E27.01 ..With semiconductor substrate only (EPO)

257/E27.07 ...Including a plurality of individual components in a repetitive configuration (EPO)

257/E27.081 ....Including field-effect component (EPO)

257/E27.084 .....Dynamic random access memory, DRAM, structure (EPO)

257/E27.085 .....One-transistor memory cell structure, i.e., each memory cell containing only one transistor (EPO)

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257/E27.086 .....Storage electrode stacked over the transistor

4 257/E29.129 (0 OR, 4 XR)  
 Class 257 : ACTIVE SOLID-STATE DEVICES  
 257/E29.104 ....Si compounds (e.g., SiC) (EPO)  
 257/E29.111 .Electrodes (EPO)  
 257/E29.112 ..Characterized by their shape, relative sizes or dispositions (EPO)  
 257/E29.123 ...Not carrying current to be rectified, amplified, or switched (EPO)  
 257/E29.126 ....Gate stack for field-effect devices (EPO)  
 257/E29.127 .....For field-effect transistors (EPO)  
 257/E29.128 .....With insulated gate (EPO)  
 257/E29.129 .....Gate electrodes for transistors with floating gate (EPO)

3 250/492.1 (0 OR, 3 XR)  
 Class 250 : RADIANT ENERGY  
 250/492.1 IRRADIATION OF OBJECTS OR MATERIAL

3 250/492.2 (1 OR, 2 XR)  
 Class 250 : RADIANT ENERGY  
 250/492.1 IRRADIATION OF OBJECTS OR MATERIAL  
 250/492.2 .Irradiation of semiconductor devices

3 257/296 (2 OR, 1 XR)  
 Class 257 : ACTIVE SOLID-STATE DEVICES  
 257/264 ...Enhancement mode or with high resistivity channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or less)  
 257/288 .Having insulated electrode (e.g., MOSFET, MOS diode)  
 257/296 ..Insulated gate capacitor or insulated gate transistor combined with capacitor (e.g., dynamic memory cell)

3 257/302 (0 OR, 3 XR)  
 Class 257 : ACTIVE SOLID-STATE DEVICES  
 257/264 ...Enhancement mode or with high resistivity channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or less)  
 257/288 .Having insulated electrode (e.g., MOSFET, MOS diode)  
 257/296 ..Insulated gate capacitor or insulated gate transistor combined with capacitor (e.g.,

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dynamic memory

cell)

257/301 ...Capacitor in trench

257/302 ....Vertical transistor

3 257/315 (1 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/264 ...Enhancement mode or with high resistivity  
channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or  
less)

257/288 .Having insulated electrode (e.g., MOSFET, MOS  
diode)

257/314 ..Variable threshold (e.g., floating gate  
memory device)

257/315 ...With floating gate electrode

3 257/E29.304 (0 OR, 3 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/E29.162 ....Insulating materials for IGFET (EPO)

257/E29.166 .Types of semiconductor device (EPO)

257/E29.169 ..Controllable by only signal applied to  
control electrode (e.g., base of bipo  
lar transistor, gate  
of field-effect transistor) (EPO)

257/E29.226 ...Unipolar device (EPO)

257/E29.242 ....Field-effect transistor (EPO)

257/E29.255 .....With field effect produced by insulated  
gate (EPO)

257/E29.3 .....With floating gate (EPO)

257/E29.302 .....Hi-lo programming levels only (EPO)

257/E29.304 .....Charging by tunneling of carriers  
(e.g., Fowler-Nordheim tunneling) (EPO)

3 438/242 (1 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF  
ACTIVE REGIONS SEPARATED BY GATE STRUC  
TURE BY FORMATION OR  
ALTERATION OF SEMICONDUCTIVE ACTIVE RE  
GIONS

438/197 .Having insulated gate (e.g., IGFET, MISFET,  
MOSFET, etc.)

438/238 ..Including passive device (e.g., resistor,  
capacitor, etc.)

438/239 ...Capacitor

438/241 ....And additional field effect transistor  
(e.g., sense or access transistor, etc.)



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438/242 .....Including transistor formed on trench  
sidewalls

3 438/268 (0 OR, 3 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF  
ACTIVE REGIONS SEPARATED BY GATE STRUCTUR  
E BY FORMATION OR  
NS ALTERATION OF SEMICONDUCTIVE ACTIVE REGIO

438/197 .Having insulated gate (e.g., IGFET, MISFET,  
MOSFET, etc.)

438/268 ..Vertical channel

3 438/294 (0 OR, 3 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF  
ACTIVE REGIONS SEPARATED BY GATE STRUCTUR  
E BY FORMATION OR  
NS ALTERATION OF SEMICONDUCTIVE ACTIVE REGIO

438/197 .Having insulated gate (e.g., IGFET, MISFET,  
MOSFET, etc.)

438/294 ..Including isolation structure

2 216/71 (1 OR, 1 XR)  
Class 216 : ETCHING A SUBSTRATE: PROCESSES

216/58 GAS PHASE ETCHING OF SUBSTRATE

216/63 .Application of energy to the gaseous etchant  
or to the substrate being etched

216/67 ..Using plasma

216/71 ...Specific configuration of electrodes to  
generate the plasma

2 250/306 (0 OR, 2 XR)  
Class 250 : RADIANT ENERGY

250/306 INSPECTION OF SOLIDS OR LIQUIDS BY CHARGED  
PARTICLES

2 250/307 (0 OR, 2 XR)  
Class 250 : RADIANT ENERGY

250/306 INSPECTION OF SOLIDS OR LIQUIDS BY CHARGED  
PARTICLES

250/307 .Methods

2 250/309 (1 OR, 1 XR)

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Class 250 : RADIANT ENERGY

250/306 INSPECTION OF SOLIDS OR LIQUIDS BY CHARGED PARTICLES

250/309 .Positive ion probe or microscope type

2 250/492.3 (0 OR, 2 XR)

Class 250 : RADIANT ENERGY

250/492.1 IRRADIATION OF OBJECTS OR MATERIAL

250/492.3 .Ion or electron beam irradiation

2 257/301 (1 OR, 1 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/264 ...Enhancement mode or with high resistivity channel (e.g., doping of  $10^{15} \text{ cm}^{-3}$  or less)

257/288 .Having insulated electrode (e.g., MOSFET, MOS diode)

257/296 ..Insulated gate capacitor or insulated gate transistor combined with capacitor (e.g., dynamic memory cell)

257/301 ...Capacitor in trench

2 257/314 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/264 ...Enhancement mode or with high resistivity channel (e.g., doping of  $10^{15} \text{ cm}^{-3}$  or less)

257/288 .Having insulated electrode (e.g., MOSFET, MOS diode)

257/314 ..Variable threshold (e.g., floating gate memory device)

2 257/316 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/264 ...Enhancement mode or with high resistivity channel (e.g., doping of  $10^{15} \text{ cm}^{-3}$  or less)

257/288 .Having insulated electrode (e.g., MOSFET, MOS diode)

257/314 ..Variable threshold (e.g., floating gate memory device)

257/315 ...With floating gate electrode

257/316 ....With additional contacted control electrode

2 257/327 (0 OR, 2 XR)

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Class 257 : ACTIVE SOLID-STATE DEVICES

257/264 ...Enhancement mode or with high resistivity channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or less)

257/288 .Having insulated electrode (e.g., MOSFET, MOS diode)

257/327 ..Short channel insulated gate field effect transistor

2 257/35 (1 OR, 1 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/9 THIN ACTIVE PHYSICAL LAYER WHICH IS (1) AN ACTIVE POTENTIAL WELL LAYER THIN ENOUGH TO ESTABLISH DISCRETE QUANTUM ENERGY LEVELS OR (2) AN ACTIVE BARRIER LAYER THIN ENOUGH TO PERMIT QUANTUM MECHANICAL TUNNELING OR (3) AN ACTIVE LAYER THIN ENOUGH TO PERMIT CARRIER TRANSMISSION WITH SUBSTANTIALLY NO SCATTERING (E.G., SUPERLATTICE QUANTUM WELL, OR BALLISTIC TRANSPORT DEVICE)

257/30 .Tunneling through region of reduced conductivity

257/31 ..Josephson

257/35 ...Particular barrier material

2 257/E21.027 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/E21.001 PROCESSES OR APPARATUS ADAPTED FOR MANUFACTURE OR TREATMENT OF SEMICONDUCTOR OR SOLID-STATE DEVICES OR OF PARTS THEREOF (EPO)

257/E21.002 .Manufacture or treatment of semiconductor device (EPO)

257/E21.023 ..Making mask on semiconductor body for further photolithographic processing (EPO)

257/E21.024 ...Comprising organic layer (EPO)

257/E21.026 ....Characterized by treatment of photoresist layer (EPO)

257/E21.027 .....Photolithographic process (EPO)

2 257/E21.345 (0 OR, 2 XR)

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Class 257 : ACTIVE SOLID-STATE DEVICES

257/E21.001 PROCESSES OR APPARATUS ADAPTED FOR MANUFACTURE

OR TREATMENT OF SEMICONDUCTOR OR SOL

ID-STATE DEVICES OR OF

PARTS THEREOF (EPO)

257/E21.002 .Manufacture or treatment of semiconductor device (EPO)

257/E21.04 ..Device having at least one potential-jump barrier or surface barrier, e.g., PN j

unction, depletion

layer, carrier concentration layer (EP

O)

257/E21.085 ...Device having semiconductor body comprising Group IV elements or Group III-V compou

nds with or without

impurities, e.g., doping materials (EPO

)

257/E21.328 ....Radiation treatment (EPO)

257/E21.331 .....With high-energy radiation (EPO)

257/E21.334 .....Producing ions for implantation (EPO)

257/E21.345 .....Characterized by the angle between the ion beam and the crystal planes or the mai

n crystal

surface (EPO)

2 257/E21.429 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/E21.001 PROCESSES OR APPARATUS ADAPTED FOR MANUFACTURE

OR TREATMENT OF SEMICONDUCTOR OR S

OLID-STATE DEVICES OR OF

PARTS THEREOF (EPO)

257/E21.002 .Manufacture or treatment of semiconductor device (EPO)

257/E21.04 ..Device having at least one potential-jump barrier or surface barrier, e.g., PN

junction, depletion

layer, carrier concentration layer (

EPO)

257/E21.085 ...Device having semiconductor body comprising Group IV elements or Group III-V comp

ounds with or without

impurities, e.g., doping materials (E

PO)

257/E21.394 ....Multi-step process for the manufacture of unipolar device (EPO)

257/E21.4 .....Field-effect transistor (EPO)

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257/E21.409 .....With an insulated gate (EPO)

257/E21.424 .....Lateral single gate silicon transistor  
(EPO)

257/E21.428 .....With a recessed gate, e.g., lateral  
U-MOS (EPO)

257/E21.429 .....Using etching to form recess at gate  
location (EPO)

2 257/E21.575 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/E21.531 ...For electrical parameters, e.g.,  
resistance, deep-levels, CV, diffusions  
by electrical means  
(EPO)

257/E21.532 .Manufacture or treatment of devices  
consisting of plurality of solid-state co  
mponents formed in  
or on common substrate or of parts thereo  
f; manufacture of  
integrated circuit devices or of parts th  
ereof (EPO)

257/E21.536 ..Manufacture of specific parts of devices  
(EPO)

257/E21.575 ...Interconnections, comprising conductors and  
dielectrics, for carrying current between s  
eparate  
components within device (EPO)

2 257/E21.657 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

Could not find subclass title.

2 257/E21.659 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

Could not find subclass title.

2 257/E21.68 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

Could not find subclass title.

2 257/E39.014 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/E39.001 DEVICES USING SUPERCONDUCTIVITY, PROCESSES, OR  
APPARATUS PECULIAR TO MANUFACTURE OR TREA  
TMENT OF SUCH  
DEVICES, OR OF PARTS THEREOF (EPO)

257/E39.012 .Devices comprising junction of dissimilar  
materials, e.g., Josephson-effect devices

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(EPO) 257/E39.014 ..Josephson-effect devices (EPO)

2 430/22 (2 OR, 0 XR)  
 Class 430 : RADIATION IMAGERY CHEMISTRY: PROCESS,  
 COMPOSITION, OR PRODUCT THEREOF  
 430/22 REGISTRATION OR LAYOUT PROCESS OTHER THAN COLO  
 R PROOFING

2 430/296 (0 OR, 2 XR)  
 Class 430 : RADIATION IMAGERY CHEMISTRY: PROCESS,  
 COMPOSITION, OR PRODUCT THEREOF  
 430/269 IMAGING AFFECTING PHYSICAL PROPERTY OF  
 RADIATION SENSITIVE MATERIAL, OR PRODUCING  
 NONPLANAR OR PRINTING SURFACE - PROCESS, COMPOSITION, O  
 R PRODUCT  
 430/296 .Electron beam imaging

2 430/5 (1 OR, 1 XR)  
 Class 430 : RADIATION IMAGERY CHEMISTRY: PROCESS,  
 COMPOSITION, OR PRODUCT THEREOF  
 430/4 RADIATION MODIFYING PRODUCT OR PROCESS OF  
 MAKING  
 430/5 .Radiation mask

2 430/942 (0 OR, 2 XR)  
 Class 430 : RADIATION IMAGERY CHEMISTRY: PROCESS,  
 COMPOSITION, OR PRODUCT THEREOF  
 430/942 ELECTRON BEAM

2 430/967 (0 OR, 2 XR)  
 Class 430 : RADIATION IMAGERY CHEMISTRY: PROCESS,  
 COMPOSITION, OR PRODUCT THEREOF  
 430/966 X-RAY  
 430/967 .X-ray exposure process

2 438/207 (0 OR, 2 XR)  
 Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS  
 438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF  
 ACTIVE REGIONS SEPARATED BY GATE STRUC  
 TURE BY FORMATION OR ALTERATION OF SEMICONDUCTIVE ACTIVE RE  
 GIONS  
 438/197 .Having insulated gate (e.g., IGFET, MISFET,  
 MOSFET, etc.)

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438/199 ..Complementary insulated gate field effect transistors (i.e., CMOS)

438/200 ...And additional electrical device

438/202 ....Including bipolar transistor (i.e., BiCMOS)

)

438/207 .....Including isolation structure

2 438/243 (0 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY FORMATION OR ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS

438/197 .Having insulated gate (e.g., IGFET, MISFET, MOSFET, etc.)

438/238 ..Including passive device (e.g., resistor, capacitor, etc.)

438/239 ...Capacitor

438/243 ....Trench capacitor

2 438/259 (1 OR, 1 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY FORMATION OR ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS

438/197 .Having insulated gate (e.g., IGFET, MISFET, MOSFET, etc.)

438/257 ..Having additional gate electrode surrounded by dielectric (i.e., floating gate)

438/259 ...Including forming gate electrode in trench or recess in substrate

2 438/299 (0 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY FORMATION OR ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS

438/197 .Having insulated gate (e.g., IGFET, MISFET, MOSFET, etc.)

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438/299 ..Self-aligned

2 438/300 (0 OR, 2 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF  
ACTIVE REGIONS SEPARATED BY GATE STRUCTURE  
RE BY FORMATION OR  
ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS

438/197 .Having insulated gate (e.g., IGFET, MISFET, MOSFET, etc.)

438/299 ..Self-aligned

438/300 ...Having elevated source or drain (e.g., epitaxially formed source or drain, etc.)

2 438/427 (0 OR, 2 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/400 FORMATION OF ELECTRICALLY ISOLATED LATERAL SEMICONDUCTIVE STRUCTURE

438/424 .Grooved and refilled with deposited dielectric material

438/427 ..Refilling multiple grooves of different widths or depths

2 438/589 (0 OR, 2 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY CONDUCTIVE MATERIAL

438/585 .Insulated gate formation

438/589 ..Recessed into semiconductor substrate

2 438/631 (0 OR, 2 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive material

438/618 ..Contacting multiple semiconductive regions (i.e., interconnects)

438/622 ...Multiple metal levels, separated by insulating layer (i.e., multiple level metallization)

438/631 ....Having planarization step